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APPLICATION NO.	FILING DATE	FIRST NAMED INVENTOR	ATTORNEY DOCKET NO.	CONFIRMATION NO.
10/687,498	03/25/2004	Lin Wang	06401.00418	9050

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BANNER & WITCOFF, LTD.
TEN SOUTH WACKER DRIVE
SUITE 3000
CHICAGO, IL 60606

EXAMINER	
HUSON, MONICA ANNE	
ART UNIT	PAPER NUMBER
1732	

SHORTENED STATUTORY PERIOD OF RESPONSE	MAIL DATE	DELIVERY MODE
3 MONTHS	04/23/2007	PAPER

Please find below and/or attached an Office communication concerning this application or proceeding.

If NO period for reply is specified above, the maximum statutory period will apply and will expire 6 MONTHS from the mailing date of this communication.

Office Action Summary	Application No.	Applicant(s)	
	10/687,498	WANG ET AL.	
	Examiner	Art Unit	
	Monica A. Huson	1732	

-- The MAILING DATE of this communication appears on the cover sheet with the correspondence address --

Period for Reply

A SHORTENED STATUTORY PERIOD FOR REPLY IS SET TO EXPIRE 3 MONTH(S) OR THIRTY (30) DAYS, WHICHEVER IS LONGER, FROM THE MAILING DATE OF THIS COMMUNICATION.

- Extensions of time may be available under the provisions of 37 CFR 1.136(a). In no event, however, may a reply be timely filed after SIX (6) MONTHS from the mailing date of this communication.
- If NO period for reply is specified above, the maximum statutory period will apply and will expire SIX (6) MONTHS from the mailing date of this communication.
- Failure to reply within the set or extended period for reply will, by statute, cause the application to become ABANDONED (35 U.S.C. § 133). Any reply received by the Office later than three months after the mailing date of this communication, even if timely filed, may reduce any earned patent term adjustment. See 37 CFR 1.704(b).

Status

1)☒ Responsive to communication(s) filed on *08 February 2007*.

2a)☒ This action is **FINAL**. 2b)☐ This action is non-final.

3)☐ Since this application is in condition for allowance except for formal matters, prosecution as to the merits is closed in accordance with the practice under *Ex parte Quayle*, 1935 C.D. 11, 453 O.G. 213.

Disposition of Claims

4)☒ Claim(s) *1-7* is/are pending in the application.

4a) Of the above claim(s) _____ is/are withdrawn from consideration.

5)☐ Claim(s) _____ is/are allowed.

6)☒ Claim(s) *1-7* is/are rejected.

7)☐ Claim(s) _____ is/are objected to.

8)☐ Claim(s) _____ are subject to restriction and/or election requirement.

Application Papers

9)☐ The specification is objected to by the Examiner.

10)☒ The drawing(s) filed on *25 March 2004* is/are: a)☒ accepted or b)☐ objected to by the Examiner.

Applicant may not request that any objection to the drawing(s) be held in abeyance. See 37 CFR 1.85(a).

Replacement drawing sheet(s) including the correction is required if the drawing(s) is objected to. See 37 CFR 1.121(d).

11)☐ The oath or declaration is objected to by the Examiner. Note the attached Office Action or form PTO-152.

Priority under 35 U.S.C. § 119

12)☐ Acknowledgment is made of a claim for foreign priority under 35 U.S.C. § 119(a)-(d) or (f).

a)☐ All b)☐ Some * c)☐ None of:

1.☐ Certified copies of the priority documents have been received.

2.☐ Certified copies of the priority documents have been received in Application No. _____.

3.☐ Copies of the certified copies of the priority documents have been received in this National Stage application from the International Bureau (PCT Rule 17.2(a)).

* See the attached detailed Office action for a list of the certified copies not received.

Attachment(s)

1) ☐ Notice of References Cited (PTO-892)
2) ☐ Notice of Draftsperson's Patent Drawing Review (PTO-948)
3) ☐ Information Disclosure Statement(s) (PTO/SB/08) Paper No(s)/Mail Date _____.
4) ☐ Interview Summary (PTO-413) Paper No(s)/Mail Date. _____.
5) ☐ Notice of Informal Patent Application
6) ☐ Other: _____.

DETAILED ACTION

This office action is in response to the Amendment filed 29 February 2007.

Claim Rejections - 35 USC § 103

The following is a quotation of 35 U.S.C. 103(a) which forms the basis for all obviousness rejections set forth in this Office action:

> (a) A patent may not be obtained though the invention is not identically disclosed or described as set forth in section 102 of this title, if the differences between the subject matter sought to be patented and the prior art are such that the subject matter as a whole would have been obvious at the time the invention was made to a person having ordinary skill in the art to which said subject matter pertains. Patentability shall not be negatived by the manner in which the invention was made.

Claims 1-6 are rejected under 35 U.S.C. 103(a) as being unpatentable over Nakatsuka et al. (U.S. Patent 4,076,846), in view of Altieri (U.S. Patent 5,849,233). Regarding Claim 1, Nakatsuka et al., hereafter "Nakatsuka," show that it is known to carry out a method for preparing a film (Abstract), the process comprising providing a hydroxyalkyl starch, said starch being derivatized with a hydroxyalkyl substituent having from 2 to 6 carbon atoms (Column 6, lines 60-62); and extruding said starch in an extruder (Column 6, lines 30-32), said extruder having a barrel, a die, and at least one rotating shaft (Column 9, lines 35-43), said barrel having at least first and second zones, said first zone being upstream from said second zone (Column 13, lines 34-37), the temperature in the first zone being insufficient to gelatinize said starch to a gelatinization level of at least 95% (Column 13, lines 34-36; It is noted that gelatinization occurs about 150C-175C.) and the temperature in said second zone being sufficient to gelatinize said starch to a gelatinization level of at least 95% (Column 13, lines 36-37; It is noted that gelatinization occurs about 150C-175C.), said starch being extruded in the presence of controlled moisture, said process including the step of controlling the rotational speed of said shaft to impart specific mechanical energy to said starch sufficient to result in a soluble extruded starch product that is capable

of extrusion through said die at said rotational speed (Column 12, lines 44-60; Column 14, lines 37-45), said solution having been prepared by mixing said starch product with water (Column 12, lines 20-24); and forming a film from said solution (Column 4, lines 5-13). Nakatsuka does not specifically show barrel moisture levels. Altieri shows that it is known to carry out a method wherein the moisture in the barrel does not exceed 25% by weight of said starch (Column 1, lines 56-58). Altieri and Nakatsuka are combinable because they are concerned with a similar technical field, namely, methods of molding starches. It would have been prima facie obvious to one of ordinary skill in the art at the time the invention was made to use Altieri's specific barrel moisture teachings during Nakatsuka's molding process in order to most accurately form a product that accommodates exclusive end-use specifications.

Regarding Claim 2, Nakatsuka shows the process as claimed as discussed in the rejection of Claim 1 above, but he does not give barrel moisture levels. Altieri shows that it is known to carry out a method wherein the moisture in the barrel does not exceed 25% by weight of said starch (Column 1, lines 56-58). It is noted that a prior art reference that discloses a range encompassing a somewhat narrower claimed range is sufficient to establish a prima facie case of obviousness (MPEP 2144.05; *In re Peterson*, 315 F.3d 1325, 1330, 65 USPQ2d 1379, 1382-83 (Fed. Cir.2003). It would have been prima facie obvious to one of ordinary skill in the art at the time the invention was made to operate Nakatsuka's molding method under a somewhat narrower moisture range of less than 22.5% by weight of the starch, suggested by Altieri, in order to most accurately form a product that accommodates exclusive end-use specifications.

Regarding Claim 3, Nakatsuka shows the process as claimed as discussed in the rejection of Claim 1 above, but he does not give barrel moisture levels. Altieri shows that it is known to carry out a method wherein the moisture in the barrel does not exceed 25% by weight of said starch

(Column 1, lines 56-58). It is noted that a prior art reference that discloses a range encompassing a somewhat narrower claimed range is sufficient to establish a prima facie case of obviousness (MPEP 2144.05; *In re Peterson*, 315 F.3d 1325, 1330, 65 USPQ2d 1379, 1382-83 (Fed. Cir.2003). It would have been prima facie obvious to one of ordinary skill in the art at the time the invention was made to operate Nakatsuka's molding method under a somewhat narrower moisture range of less than 20% by weight of the starch, suggested by Altieri, in order to most accurately form a product that accommodates exclusive end-use specifications.

Regarding Claim 4, Nakatsuka shows the process as claimed as discussed in the rejection of Claim 1 above, but he does not give barrel moisture levels. Altieri shows that it is known to carry out a method wherein the moisture in the barrel does not exceed 25% by weight of said starch (Column 1, lines 56-58). It is noted that a prior art reference that discloses a range encompassing a somewhat narrower claimed range is sufficient to establish a prima facie case of obviousness (MPEP 2144.05; *In re Peterson*, 315 F.3d 1325, 1330, 65 USPQ2d 1379, 1382-83 (Fed. Cir.2003). It would have been prima facie obvious to one of ordinary skill in the art at the time the invention was made to operate Nakatsuka's molding method under a somewhat narrower moisture range of less than 17.5% by weight of the starch, suggested by Altieri, in order to most accurately form a product that accommodates exclusive end-use specifications.

Regarding Claim 5, Nakatsuka shows the process as claimed as discussed in the rejection of Claim 1 above, including a method wherein the solution includes a plasticizer (Abstract), meeting applicant's claim.

Regarding Claim 6, Nakatsuka shows the process as claimed as discussed in the rejection of Claim 1 above, including a film formed by the said process (Column 4, lines 5-13), meeting applicant's claim.

Claim 7 is rejected under 35 U.S.C. 103(a) as being unpatentable over Nakatsuka and Altieri, in view of Redding, Jr. (U.S. Patent 5,455,342). Nakatsuka shows the process as claimed as discussed in the rejection of Claim 1 above, but he does not show the particle size of his common starch. Redding, Jr. shows that it is known to carry out a method of molding starches wherein the starches have a particle size distribution such that at least 90% by weight of the starch particles pass through an 80 mesh (180 micron) screen (Column 1, lines 19-23; It is being interpreted that since starch is "commonly found" at sizes from 5-25 microns, at least 90% by weight of starch would fall into the disclosed size of 5-25 microns.). Redding, Jr. and Nakatsuka are combinable because they are concerned with a similar technical field, namely, methods of molding starches. It would have been prima facie obvious to one of ordinary skill in the art at the time the invention was made to identify the size disclosed in Redding, Jr. as that of Nakatsuka's "common" starches in order to design molding processes that would accommodate specifically-sized granules.

Response to Arguments

Applicant's arguments filed 19 February 2007 have been fully considered but they are not persuasive.

Applicant contends that Nakatsuka does not show the instant invention because he does not identify starch as the material that results upon extrusion. This is not persuasive because at Column 11, lines 1-6, Nakatsuka identifies the shaped article as a starch blend, as well as discussing the manufacturing method of the starch article at Column 22, lines 66-68 and Column 23, lines 1-30. At Column 24, lines 56-59, Nakatsuka again clearly identifies his molded article as comprising a starch material.

Applicant contends that Nakatsuka does not show the instant invention because he fails to teach an extruder with two zones. This is not persuasive because Nakatsuka clearly discloses an extruder barrel having at least two

zones at Column 13, lines 34-37. As previously noted, gelatinization occurs at about 150C-175C, so it is being interpreted that the cooler first zone would be insufficient to gelatinize the molding material, while the subsequent second/third zone would be sufficient for gelatinization. Note that it is being interpreted that since Nakatsuka does disclose that gelatinization is effected via his process (Column 6, lines 14-19), 100% gelatinization occurs while or after the molding material is in the second/third zone.

Applicant contends that Redding, Jr. and Nakatsuka are not properly combinable. Applicant contends that Nakatsuka is only concerned with a heavily-modified starch, "perhaps to the extent of the loss of the starch structure" (see Response, page 4). This is not persuasive because the examiner cannot find any exclusive support for this assertion in Nakatsuka. The examiner maintains her interpretation that Nakatsuka produces a starch article (whether or not it is a protein-starch combination), in particular because Nakatsuka claims a molded article comprising a starch material in claim 20. Further, although Nakatsuka combines a starch material with a protein material, the examiner does not necessarily agree with applicant that Nakatsuka's starch is heavily-modified (i.e. chemically modified). In fact, Nakatsuka, like Redding, also teaches that chemical modification of a starch material is undesirable (See Nakatsuka, Column 2, lines 31-33). Therefore, it is maintained that the disclosures of Nakatsuka and Redding would be properly combinable to suggest the instant invention.

Conclusion

Applicant's amendment necessitated the new ground(s) of rejection presented in this Office action. Accordingly, **THIS ACTION IS MADE FINAL**. See MPEP § 706.07(a). Applicant is reminded of the extension of time policy as set forth in 37 CFR 1.136(a).

A shortened statutory period for reply to this final action is set to expire THREE MONTHS from the mailing date of this action. In the event a first reply is filed within TWO MONTHS of the mailing date of this final action and the advisory action is not mailed until after the end of the THREE-MONTH shortened statutory period, then the shortened statutory period will expire on the date the advisory action is mailed, and any extension fee pursuant to 37 CFR 1.136(a) will be calculated from the mailing date of the advisory action. In no event, however, will the statutory period for reply expire later than SIX MONTHS from the date of this final action.

Any inquiry concerning this communication or earlier communications from the examiner should be directed to Monica A. Huson whose telephone number is 571-272-1198. The examiner can normally be reached on Monday-Friday 7:30am-4:00pm.

If attempts to reach the examiner by telephone are unsuccessful, the examiner's supervisor, Christina Johnson can be reached on 571-272-1176. The fax phone number for the organization where this application or proceeding is assigned is 571-273-8300.

Information regarding the status of an application may be obtained from the Patent Application Information Retrieval (PAIR) system. Status information for published applications may be obtained from either Private PAIR or Public PAIR. Status information for unpublished applications is available through Private PAIR only. For more information about the PAIR system, see http://pair-direct.uspto.gov. Should you have questions on access to the Private PAIR system, contact the Electronic Business Center (EBC) at 866-217-9197 (toll-free). If you would like assistance from a USPTO Customer Service Representative or access to the automated information system, call 800-786-9199 (IN USA OR CANADA) or 571-272-1000.

Monica A Huson

Monica A Huson

April 19, 2007